

**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
Honolulu, Hawaii**

February 11, 2010

180-Day Exp. Date: February 27, 2010

**Board of Land and
Natural Resources
State of Hawaii
Honolulu, Hawaii**

REGARDING: Conservation District Use Application (CDUA) HA-3520
for a Single Family Residence (SFR) & Related
Improvements

**APPLICANT/
LANDOWNER:** Edward and Mariko Bilinsky

LOCATION: Waawaa, Puna, Hawaii
TMKs: (3) 1-4-028:009

AREA OF PARCEL Approximately (\approx) 0.894-acre/ 38,942-ft²

USE: \approx 4,000 ft²

SUBZONE: Resource

DESCRIPTION OF AREA AND CURRENT USE

Waawaa exists in the Puna District on the east side of the island of Hawaii. The subject parcel noted as TMK: (3) 1-4-028:009 is approximately .894-acres (38,942 ft²) and dual zoned with the majority of the lot within the Resource subzone of the Conservation District and a small corner of the lot lies within the Agricultural District. According to the State Land Use Commission, the Conservation/Agricultural boundary parallels the shoreline at a distance averaging approximately 300-feet.

The property is unimproved and separated from the ocean by a beach reserve parcel that is 70' to 130' in width between the parcel and the shoreline noted as the 'top of the pali' to the northeast. The Beach Reserve parcel along the shoreline is made up of unvegetated boulders and lava cliffs. To the southeast, a residence is being constructed within the Agricultural portion of the parcel, to the southwest is the Government Beach Road and to the northwest is an unimproved parcel. The project area rises in elevation from \approx 5-10 feet above mean sea level (AMSL) at its seaward end to an estimated 50-55 ft AMSL at its inland end. The inland end of the parcel is \approx 315 to 425-ft from the low sea cliff shoreline. (Exhibit 1 & 2).

According to the applicant, the immediate community surrounding the subject property is referred to as the Waawaa Subdivision, a 170-large lot (average 3.0 acre) development that was created in the 1960's. Waawaa can be characterized as under developed with unimproved gravel roads and scattered houses. $\approx 25\%$ of the subdivision have houses on them. The locality is known as the jungle and the nearby fisherman's trail was the scene of a tragic event. The location is isolated with little to no County services.

The region is part of the Hilo Lava Plain consisting of a rugged volcanic coast with rough, broken lava ridges that consists of exposed pahoehoe lava with small pockets of soil. A thin layer of organic soil had developed over the lava bedrock. The soil is rapidly permeable with slow run-off and a slight erosion hazard.

Near the vicinity of the parcel along the shore at Nanawale Bay, there appears to be the former village of Nanawale just northwest of the current project area that was destroyed by the lava flow of 1840. Features noted within the current project area may be remnants of this village.

According to the Atlas of Natural Hazards in the Hawaiian Coastal Zone¹, the Nanawale shoreline undergoes periodic morphologic changes due to tectonic and seismic activity associated with Kilauea Volcano. High waves are common along the rugged coastal cliffs making it dangerous for fishermen. The Overall Hazard Assessment for the subject area is moderately high. The coast is in lava flow hazard zone 2 and the threat of tsunami and volcanic/seismic hazard is high due to the proximity to great seismic activity associated with Kilauea volcanism. The entire island of Hawaii is rated Zone 4 Seismic Probability Rating, areas at risk from major earthquake damage (**Exhibit 3 & 4**).

This area does not have any public infrastructure such as municipal water or sewer service or electricity. Access to the property is through the Old Government Road that is not paved or regularly maintained. The County of Hawaii Civil Defense Agency recognizes that the area is susceptible to wild land fires due to the periodic drought conditions. The Flood Insurance Rate Maps show that the project site is in Flood Zone X, outside of the 100-year floodplain.

The project area is exposed to moderate trade winds that provide excellent air quality. During periods of Kona winds, portions of the Puna district are impacted by vog, a form of sulfuric air pollution, from nearby Kilauea volcano.

Past correspondence from the US Department of Interior Fish and Wildlife Service indicate that the coastline of Waawaa supports a botanically significant littoral lowland native forest and harbors the largest pockets of older substrate lava that are surrounded by younger lava. These pockets harbor successional older plant communities that often support unique and diverse assemblages of flora and fauna, sometimes representing genetically distinct populations of species. These older pockets of lava play an important role such as serving as a source of seed and pollen that may prove to be critical in the recolonization of surrounding younger flows (**Exhibit 5 & 6**).

¹ Fletcher, Grossman, Richmond & Gibbs. 2002. Atlas of Natural Hazards in the Hawaiian Coastal Zone. Department of the Interior, USGS.

The area is overgrown with dense vegetation that limits scenic views mauka and makai from the Government Road. Views along the rough, rocky shoreline is dramatic. Vegetation within the project area varies in density from moderate to heavy. The coastal third of the property is almost exclusively covered in Naupaka overlaying phoehe lava that extends to the rocky shoreline.

Two thirds of the parcel is covered with hala that is present throughout the project area with thicker stands near the shoreline and smaller stands within the more inland portion of the project area with a mixed under story, primarily lauac fern, sword fern and sprouting hala seedlings. The coastal third of the property is almost exclusively covered in naupaka. Amau ferns, a noni tree and common ti also exist on the property along with invasive exotic plants such as octopus tree, strawberry guava, wedlia and cane grass.

Fauna in the area is primarily common exotic birds such as cardinals, doves, sparrows & finches and rodents such as mongoose & rats. Migratory sea and shore bird may visit the area. The protected Hawaiian Hawk and Hoary Bat are known to forage in the area and to travel over large areas following daily and seasonal patterns. Hawks are seen frequently in the area. According to the Applicant, there are no sustained sightings that would suggest nesting or frequent returning behavior that would suggest habitat use of the property.

Fishing and collection of lauhala may take place in the vicinity. There are no known cultural practices that take place on or near the property. During the course of the field survey, one archaeological site complex was identified consisting of 3 features- a stone platform believed to be a temporary habitation structures or viewing platform; a roughly piled stone clearing mound believed to be created when land is cleared of stones prior to use and a low, stone, C-shaped wall located on slightly sloping ground believed to have been a windbreak or used for agriculture. The site was assessed as significant solely for informational content and recorded. The State Historic Preservation Division concluded a 'no effect on historic properties' based on the inventory survey. The stone platform will be retained. The other features will be removed in the process of clearing for the house site.

Fishermen and gatherers use the shoreline infrequently. Coastal users access the beach reserve parcel on foot from informal trails leading from the Old Government Road through other properties to the shore. There appears to be a portion of a former jeep trail along the shoreline fronting the subject parcel that has been blocked with large stones by an adjoining landowner.

PROPOSED USE

According to the application, the proposed residence is approximately (\approx) 2,940-ft² consisting of 3 bedrooms, 2 bathrooms, living, dining & kitchen areas. A fenced open-air patio with a 236-ft² lap pool and a landscaped area is also proposed along with several small retaining walls. Access will be off of Government Beach Road into a gravel driveway. The SFR appears to be slab on grade. A water tank, a propane tank, a

generator and septic system will also be sited as there are no existing utilities that serve the property (**Exhibit 7, 8 & 9**).

The applicant plans to install a photovoltaic system with a back up generator for electrical service, propane gas for cooking, and solar collectors for hot water. Water will be collected from the roof and stored in a catchment tank on site. Wastewater will be disposed of in a Department of health approved septic system on site.

Water will be via catchment, electricity will be generated on site and wastewater will be disposed of via a Department of Health approved on-site septic system. A cellular phone provider provides service to the applicant. Cooking will be done with liquid propane that will be delivered and stored on site. Solar voltaic panels will also provide electrical energy with solar water heating.

The County of Hawaii Civil Defense mentioned a concern for wild fires in the area although there is no record of wild fires in the Waawaa area. Unimproved roads in the area make rapid response difficult. To mitigate the fire hazard potential, the applicant is proposing to keep growth away from the residence and to maintain the capacity to extinguish a small blaze. A national standard thread connection on the outflow of the water storage tank to facilitate Fire Department use of the stored water in the event of a fire will be incorporated. A barrier to the stored propane tanks to reduce the potential of vehicular collision is also proposed.

In regards to the lap pool, according to the applicant the precise pool technology has not yet been selected. A water truck would provide initial pool filling. After filling, water replenishment would be from rainwater out of the catchment system. It appears that chlorine will be used to maintain sanitation in the pool. In the event that the pool needs to be emptied the water will be de-chlorinated with standard pool additives that bind the chlorine and clean the water prior to disposal on site where it will be used for landscape irrigation purposes. The pool will be operated based on catchment water sources. The pool will also serve as a back up for fire protection.

≈ 16,000-ft² of the parcel is to be cleared of existing vegetation with ≈ 15,800-ft² within the Conservation District. The remainder of the parcel will be retained in its current native vegetative cover. Landscaping improvements surrounding the proposed house and driveway will be primarily done with native plants.

45 existing hala trees, ≈ 25'-35' in height are proposed to be removed. In addition some under story plants including lauae fern will be disrupted. This area will be hand cleared prior to the use of machinery to insure that as few of the existing trees are removed as possible. The remaining native vegetation will be retained and managed for its native plant values. Exotic species including guava and octopus tree will be removed from the remaining area. The coastal vegetation will be maintained for ground cover.

According to the Applicant, the project will not have a significant impact on the broader Puna lowland forest ecosystem. A small area of hala forest will be removed to locate the dwelling and the remainder will be retained and protected in its current form. There will be a small, incremental impact on the overall forest cover and this impact is cumulative

with the impact of other homes either already built or to be built in the future in the Waawaa subdivision.

Sound associated with the construction of the improvements will be intermittent and will be limited to daylight hours for the duration of 9-months. Vegetation on the site currently obstructs a clear view of the shoreline from the Government Road due to the growth of hala and other vegetation. The visual impact of the house will be mitigated by the retention of the existing stand of vegetation that will serve as a buffer. The house will be set in a natural depression in the land some 125' from the road and more than 150' back from the shoreline. The proposal will have no impact on the use of the shoreline.

In the event that archaeological resource or human remains are encountered during development activities within the applicant's property, work in the immediate area of the discovery shall be halted and SHPD shall be contacted.

Alternatives Analysis

The applicant has proposed four alternatives: No action; relocate the home on the property/ revise the plans; or build in the Agricultural district only. According to the applicant, the property was purchased for the purpose of constructing their retirement home. With no action, the property would remain unimproved, invasive species would remain, the retirement investment would be compromised and the property would be resold.

Revising or relocating the home would have a similar impact as the proposal. Additional hala may need to be removed, there would be a direct impact on the one archeological feature to be retained, views along Government Beach Road would be reduced along with the resident's privacy. The Applicant has considered larger house plans and has revised plans to meet setback requirements so as not to require clearing of the land across the entire width of the property. The proposed lap pool could also be eliminated.

According to the Applicant, there is insufficient area to retain all desired improvements in the Agricultural District. Staff notes, a residence may not be a use that could be applied for within the Agricultural District under County rules in this particular case.

SUMMARY OF COMMENTS

This application was referred to the following agencies for their review and comment: the **State:** Department of Health; Office of Hawaiian Affairs; Office of Environmental Quality Control; Department of Land and Natural Resources Divisions of: Conservation and Resource Enforcement, Forestry and Wildlife, Hawaii District Land Office; and the **County of Hawaii:** Department of Planning and Malama O Puna. In addition, this application was also sent to the nearest public library, the Paho State Library, to make this information readily available to those who may wish to review it.

Responses were received and have been summarized from the following agencies:

STATE OF HAWAII

DEPARTMENT OF HEALTH

Wastewater Branch

The project is located in the Critical Wastewater Disposal Area where no new cesspools will be allowed.

Although there is no current information for any wastewater system for the property, we offer our recommendation and approval for the proposed development provided that domestic wastewater treatment and disposal will be handled by a treatment individual wastewater system (IWS) approved by our Department. We encourage the homeowner/developer to utilize recycled water for irrigation and other non-potable water purposes. Further, any means to reduce green house gas emissions, practice renewable energy and a reduction in waste is highly recommended.

All wastewater plans must meet Department rules, HAR, Chapter 11-62, "Wastewater Systems." We reserve the right to review the detailed wastewater plans for conformance to applicable rules.

General

We strongly recommend that Standard Comments be reviewed on our website. This website also features a Healthy Community Design Smart Growth checklist created by the Built Environment Working Group of the Department of Health. We encourage parties to apply the healthy built environment principles in the Checklist whenever they plan or review new development.

DEPARTMENT OF LAND AND NATURAL RESOURCES

Forestry and Wildlife

No comments

Hawaii District Land Office

No comments

COUNTY OF HAWAII

Department of Planning

No comments

Malama O Puna

The coastal lots are fully in the SMA and the lots that are fully or mostly in the conservation district are contiguous and make up about a fifth of the coastal properties. This mostly undeveloped coastline is part of one of the last native coastal forests of its extent left on the islands.

We are confused about how the conservation/agriculture line has been placed in the EA. If the placement of that boundary is correct, accordingly the recently constructed house next door would be partially in the conservation district. Board please note and determine whether one of these property owners are in error. Should this application be in error, there may be adequate space for placement of a modest home in the agricultural portion of the lot.

There is a plethora of legislation to prohibit this development:

Chapter 13-5, HAR

We cite §13-5-1, HAR, the Purpose of the Conservation District; and §13-5-30(c) the Conservation Criteria. A residential development much less a large one on a small property cannot be considered consistent with the purpose of the conservation district. The CDUA mentions that around 60% of the hala would be saved, that weeds are the largest threat to the hala forest and that hala is common along the Puna coast. It is true that hala is common in sections of the Puna coast, but it is also true that elsewhere there is intact hala forest along the coast, there are few to no invasive species. The more cut up the forest becomes, the more invasive species spread. The main threat to hala in the coastal area is human impact. There used to exist a beautiful hala grove that was prized for its thatching qualities, along the coast of Hawaiian Beaches that is no more. Only a few trees still stand, not because of invasive tress but because of human removal.

The hala forest has multiple functions by serving as a salt barrier, havens for the 'io and ope'ape'a and is a main part of the scenic view plain. As this is another house site, we are concerned with the piecemeal destruction of one of the last remaining littoral native forests of this size left.

The EA dismissed the value of the hala in this vicinity. A weaver has stated that the lauhala obtained from this area is some of the best for mats, baskets and any other use that requires a high strength and that it is also greatly desired for its color, which is generally more bluish on the tree and darker when finished. Oahu weavers come to Hawaii Island to buy lauhala as there is very little hala left on Oahu.

The conservation district also functions to protect nearshore marine resources. This lot lies on Nanawale Bay that is a well-known mating place for endangered humpback whales, whose courtship cries can be heard from November to April and nearly every night January to February.

A large house on a small lot cannot preserve or improve upon natural beauty and open space particularly from a scenic coast. A house cannot help but be materially detrimental

due both to the use of imported toxic materials that have been extracted from some other place to the physical obstruction and obliteration inflicted upon the otherwise natural coastline.

The single-family residential standards both encourage limits on obtrusiveness of homes, but we hope that you will not allow any home to be built in the conservation district. It will set a bad precedent, as there has not yet been such development in the conservation district in this geographical area. The conservation district on this coastline is rugged, wild and largely untouched. It was dedicated as conservation district in 1961. There should never have been any owner expectation for development of recently purchased lots in the conservation district, and governmental restrictions on activity should not have been a surprise. This and all coastlines should be reserved for nature and respectful human visits. It is not appropriate for homes to be built there.

Chapter 205A, HRS - Coastal Zone Management

Regarding recreational opportunities accessible to the public and to protect, preserve and where desirable, restore or improve the quality of coastal scenic and open space resources, houses built on the coast are an impediment to access, both from mauka areas and along the coastline. One cannot feel as free while walking along an inhabited coastline as it is possible to feel on a natural coastline. More often than not, fishermen and coastline hikers are intimidated by property owners and their dogs, limiting enjoyment of what should be a free and open space. Not only would building a house in the conservation district be setting a precedent for the immediate area, it would be one of a very few CDUPs issued for Hawaii island over the past 20-years, in particular one of the very few that would allow destruction of native coastal forest.

A big house on a small lot would impact the scenic view. Although the house would be less visible from the road, it would be more visible along the coast. The Puna Community Development Plan (2008) is very explicit about protecting the Puna coast and view planes from development.

In regards to coastal hazards, the consultant mentions that the owners spent a few nights on the property and hints that the owners are well aware of what living that close to the cliffs on the windward side of the island is like. The consultant stated that the owners understand the dangers of living that close to the cliffs but the origin of the sand beach on top of the cliffs directly makai of where the owners want to put a house is from waves that pull out to sea and then slam on to the top of the cliffs throwing boulders, knocking chunks off of the cliff and completely coating everything with salt spray.

Conservation Districts were set up for various reasons to protect the ecosystems of the designated areas in an obvious one but often to protect the property owners as well and to discourage building in certain areas. In this case it may be to protect the property owner from the hardship of living through harsh winter storms that will inevitably wreak havoc on the homeowner's possessions.

Earthquake have also caused cliff attrition. This property is in a tsunami evacuation zone and there is an increasing danger from tsunami and sea level rise, by expert accounts, a 2-

meter sea level rise over 50 years may occur; a good reason to disallow home construction so close to the coast.

In regards to compatibility with the visual environment and preserving, maintaining and improving and restoring shoreline open space and scenic resources, to truly minimize alteration and improve and restore shoreline open space and scenic resources, this development must be disallowed.

In regards to controlling development in areas subject to storm wave, tsunamis, flood, erosion, hurricane, wind, subsidence and point and nonpoint source pollution hazards, this site seems to be subject to almost all of these.

In conclusion, 1) If the boundary between conservation and agricultural districts is found to be in error as discussed earlier, require placement of the house in the agricultural portion near the road. Placement of the home behind and within a cover of hala forest will protect it and its contents to some extent from the destructive effects of salt spray; 2) Reduce the square footage allowed on this small lot in this mostly native coastal forest; 3) require that the land be hand cleared. This would reduce the number of native trees that would be destroyed by the area a bulldozer would need to navigate in. Out of the nine inhabited lots along the coast in the subdivision, three have a hand-cleared driveway and house site. On a small lot in a conservation district covered with pre-existing indigenous species that are doing well, there should be no need for a yard and landscaping using many introduced plants from outside of the area. The landscaping already exists in the form of native forest and naupaka. Leaving the natural landscape in place would also serve to help preserve the scenic view from the coast; and 4) Require the house to be built with post and pier construction even if only slightly off the ground. There is no need for a bulldozer with this type of construction. In addition, as rat lung disease has reached epidemic proportions in lower Puna, minimizing direct contact with the soil will greatly reduce the risk of semislug access to the house.

Staff notes: The OCCL responded to the comments regarding the boundary of the conservation/agricultural state land use district and informed Malama O Puna that the State Land Use Commission (LUC) establishes the district boundaries for the entire State. Mapping done for the boundary lines were conducted at a relatively large scale utilizing USGS quad map scale (1-inch = 2,000-feet) or greater.

Applicant's response

- 1) Location of Conservation District Boundary. The formal determination provided in the CDUA and EA represents the LUC's determination. As depicted by the LUC, there was not sufficient room in the Agricultural District to locate the proposed residence as discussed in the application;
- 2) Invasive Species. The landscape plan provided in the application indicated that the proposed landscaping is predominantly native plant material and does not contain invasive species. Whatever the source of the invasive species on the property today, the applicant proposes to remove them from the hala forest that remains and protect the majority of the property in its current native plant cover. The notion that this

single family residence that is setback from the shoreline by over 100-feet will have any impact on humpback whales or turtles is unrealistic.

- 3) Hala Use. We concur that there are areas in Puna where hala is collected for weaving by native Hawaiians and others. We do not know of any weavers that frequent this particular property and believe the specific trees in this area are not valued for their leaves. Your comments are true in the general sense but do not apply to this particular property.
- 4) Public Access. There is no history of public access to the shoreline over this property and this project will not interfere with any existing public use of the shoreline. There is a privately owned Beach Reserve between the subject property and the shoreline. This area is used infrequently by the public and will remain available for that use after the proposed residence is constructed.
- 5) Coastal Hazards. There are hazards associated with building along all coastal properties in Hawaii and Puna has its unique set of issues. The Applicant is well aware of the power of the Puna coastline and believes that they have designed their home to avoid those risks.
- 6) Proposed Conditions. The Applicant is proposing to construct a residence that is already smaller than the guidelines provided in Chapter 13-5, HAR, Exhibit 4, Single Family Residential Standards. It is a modest home and will be set into the existing terrain such that it will not protrude into the view plane. The house will require the use of heavy equipment to level the house pad and install foundations and other improvements. It is the Applicant's intent to be as soft-footed as feasible to enable the home to be built without doing damage to the area they have committed to protect. Hand clearing will precede some portions of the improvement but it is not practical to eliminate the use of heavy equipment all together.

General Public comments

We are residents of the Waawaa area on the Puna coast Hawaii island. Please do not allow mini mansions or any construction on conservation lands in this area.

Staff notes: Three individuals with no return address signed this correspondence.

I don't advocate houses being built in conservation districts of Waawaa, Hale Puua or Koae.

ANALYSIS

After reviewing the application, by correspondence dated September 9, 2009, the Department has found that:

1. The proposed use is an identified land use in the Resource subzone of the Conservation District, pursuant to §13-5-24, Hawaii Administrative Rules (HAR), R-8, SINGLE FAMILY RESIDENCE, (D-1), " A single family residence that conforms to design standards as outlined in this chapter." Please be advised, however, that this finding does not constitute approval of the proposal;
2. Pursuant to §13-5-40 of the HAR, a Public Hearing will not be required;

3. In conformance with Chapter 343, Hawaii Revised Statutes (HRS), as amended, and Chapter 11-200, HAR, a finding of no significant impact to the environment (FONSI) is anticipated for the proposed project.

It has been determined that satisfaction of the Special Management Area has been met with documentation dated August 14, 2008, from the County of Hawaii which states that the proposed construction of the single-family dwelling and related improvements are exempt from the definition of “development” subject to compliance of conditions set forth by the county.

In addition, a FONSI to the environment was published in the January 8, 2010 Environmental Notice.

CONSERVATION CRITERIA

The following discussion evaluates the merits of the proposed land use by applying the criteria established in §13-5-30, HAR.

1. *The proposed land use is consistent with the purpose of the Conservation District.*

The objective of the Conservation District is to conserve, protect and preserve the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare.

Staff does not believe that the proposed use is consistent with the purpose of the Conservation District. The proposal is sited within one of the few surviving lowland littoral forest that remains in the State. The threatened/endangered Hawaiian Hawk and Hawaiian Bat may forage in the area. Hawks are seen frequently along this coast.

2. *The proposed land use is consistent with the objectives of the subzone of the land on which the use will occur.*

The objective of the Resource subzone is to develop with proper management, areas to ensure sustained use of the natural resources of those areas. The environmental assessment for the project notes that, of the Waawaa conservation district lots, ‘This proposal will be the first to be developed for residential purposes.’ Although a Single Family Residence is an identified land use that could be applied for, to allow this use would not ensure sustained use of the natural resources of the area.

Past correspondence from the US Department of Interior Fish and Wildlife Service indicate that the subject area is a kipuka of the oldest class of Kilauea volcano. Older kipukas play an important role as serving as a source of seed and pollen that may prove to be critical in the recolonization of surrounding younger flows. The USGS believes that this area has a high potential to harbor listed

endangered species of plants and animals and could serve as an important reference site for future conservation and restoration efforts.

3. *The proposed land use complies with provisions and guidelines contained in Chapter 205, HRS, entitled "Coastal Zone Management," where applicable.*

The proposal has been granted a Special Management Area Exemption by the County of Hawaii as a single family dwelling and related improvements are exempt from the definition of development.

In regards to the policies of Chapter 205A, HRS, the proposal is not consistent with protecting valuable coastal ecosystems nor with reducing coastal hazards to life and property due to the coastal location. As the proposal may set precedent in regards to development of the other conservation district lots, managing development and the recreational value of the shorefront may be diminished. The proposal will introduce residential uses (imported soil, garbage, wastewater, propane, chlorine) that may negatively impact a relatively pristine area.

4. *The proposed land use will not cause substantial adverse impacts to existing natural resources within the surrounding area, community, or region.*

Staff believes the proposed land use will contribute to cause substantial adverse impacts to the existing natural resources within the surrounding area that is a littoral forest.

5. *The proposed land use, including buildings, structures and facilities, shall be compatible with the locality and surrounding area, appropriate to the physical conditions and capabilities of the specific parcel or parcels.*

As stated in the application, of the 170 subdivided lots that were created in the early 1960's, only 25% have been developed with the majority of residence on the mauka side of the Government Road. The area is isolated and known as 'the jungle' with poor emergency response time. Furthermore there are constraints on the level of service to the area as the road is not regularly maintained and there is no infrastructure for utilities such as water and electricity

6. *The existing physical and environmental aspect of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, which ever is applicable.*

The physical and environmental aspects of the site are a rough, rugged, wave-pounding shoreline that gets the brunt of the tradewinds and may be susceptible to seismic activity. During Kona wind days, the area may be engulfed in vog. The physical and environmental aspects of the land will persevere but it may be at the expense of the residence and its occupants.

Placing a residence over an area that is part of a kipuka with the potential to harbor diverse and genetically distinct population of species will not improve the resource value of the land.

7. *Subdivision of the land will not be utilized to increase the intensity of land uses in the Conservation District.*

No subdivision of land is proposed for this project.

8. *The proposed land use will not be materially detrimental to the public health, safety and welfare.*

Should the proposed land use be approved, it would place individuals in a secluded area on an eastern facing rugged coastline susceptible to the elements and seismic and volcanic activity. Staff notes the landowners are aware of the inherent dangers of living in close proximity to the sea and Kilauea. However, it is unclear if the applicants are fully aware of the implications of locating their 'retirement home' at a location that is isolated, with no municipal services, poor access, poor emergency response time and has been the scene of more than one unfortunate event.

DISCUSSION

Waawaa is one of the last areas that support a botanically significant lowland littoral forest in the State of Hawaii and is part of kipuka that may harbor genetically distinct population of species. The endangered Hawaiian bat and the endangered Hawaiian hawk are frequent visitors to this area. A continual removal of forest cover will undoubtedly cause irrevocable loss of the natural and cultural resources to the area.

Natural events such as earthquake, tsunami, rogue storm waves, hurricane, may cause challenges to the residence and the ocean/shoreline resources. According to the Atlas of Natural Hazards in the Hawaiian Coastal Zone, the Nanawale shoreline undergoes periodic morphologic changes due to tectonic and seismic activity associated with Kilauea Volcano. High waves are common along the rugged coastal cliffs making it dangerous for fishermen. The Overall Hazard Assessment for the subject area is moderately high. The coast is in lava flow hazard zone 2 and the threat of tsunami and volcanic/seismic hazard is high due to the proximity to great seismic activity associated with Kilauea volcanism. The entire island of Hawaii is rated Zone 4 Seismic Probability Rating, areas at risk from major earthquake damage.

This proposal, if approved will be the first residence within the Conservation District of the Waawaa coastline and may set precedence for future residences. The cumulative impact on the intact littoral ecosystem cannot be mitigated. Staff notes there are sporadic nearby existing residential use. However these land uses are sited within the Agricultural District under the jurisdiction of the County of Hawaii.

Furthermore, this area does not have any public infrastructure such as municipal water, sewer service or electricity. Access to the property is through the Old Government Road

that is not paved or regularly maintained. The County of Hawaii Civil Defense Agency recognizes that the area is susceptible to wild land fires due to the periodic drought conditions. The project as proposed with a lawn, landscaping and lap pool appears to be better suited in an urban setting rather than an isolated area with no infrastructure or municipal services to the area. Violent acts of mayhem have occurred in this vicinity.

The OCCL staff has the onerous duty of evaluating the appropriateness of a project based on a complete and comprehensive assessment that has been assembled from acceptance of the application to the writing of this report. In conclusion, staff believes that the project, as proposed, is not consistent with Conservation District objectives.

RECOMMENDATION:

Staff recommends that the Board of Land and Natural Resources **deny** this application for a Single Family Residence located at Waawaa, Puna, Island of Hawaii, TMK: (3) 1-4-028:009, due to the followings:

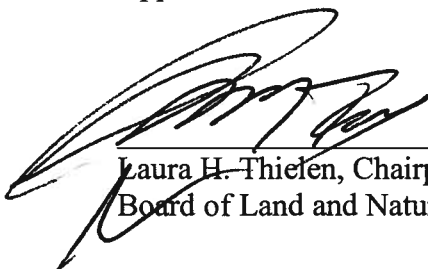
1. Staff believes that the project as proposed will have an adverse effect on the existing natural resources of the kipuka littoral forest ecosystem of the Puna coast and the species that inhabit the area; and
2. Staff believes that this area is not currently suitable for a home as the locality is devoid of infrastructure and is within a moderately high coastal hazard area that may experience periodic morphologic changes due to tectonic and seismic activity associated with Kilauea Volcano.

Respectfully submitted,



K. Tiger Mills, Staff Planner
Office of Conservation and Coastal Land

Approved for submittal:



Laura H. Thielen, Chairperson
Board of Land and Natural Resources

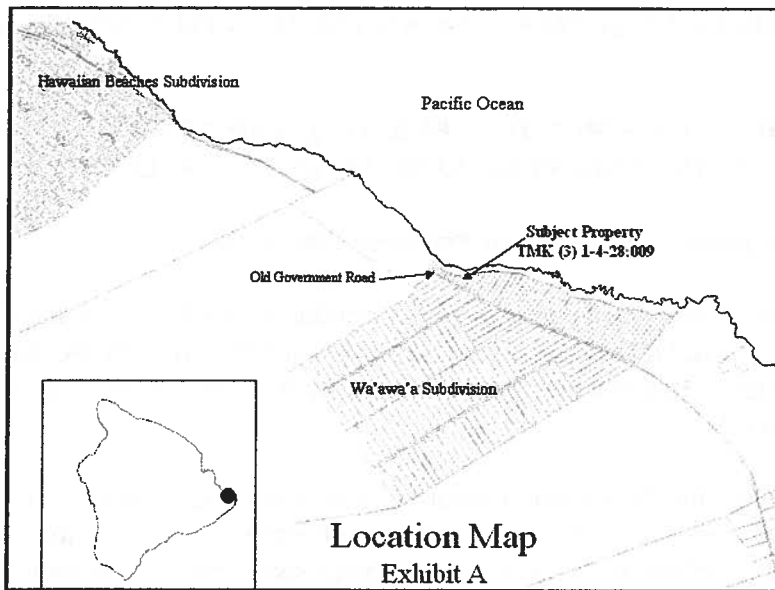


Figure A

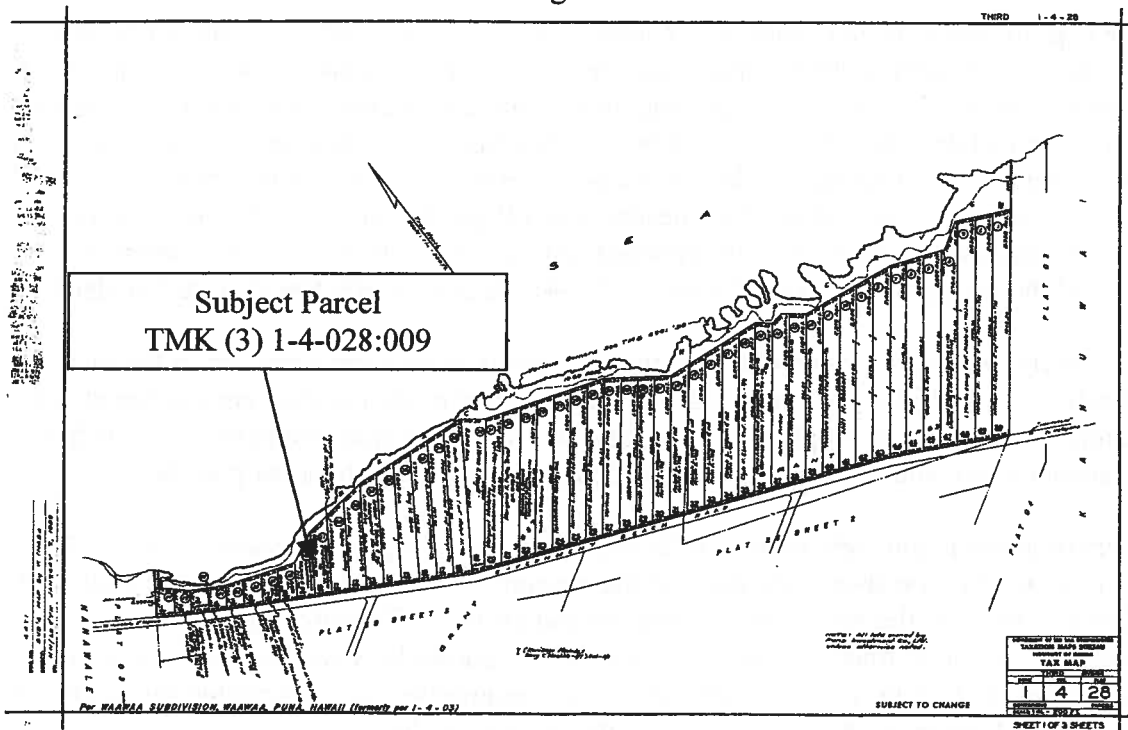


Figure B

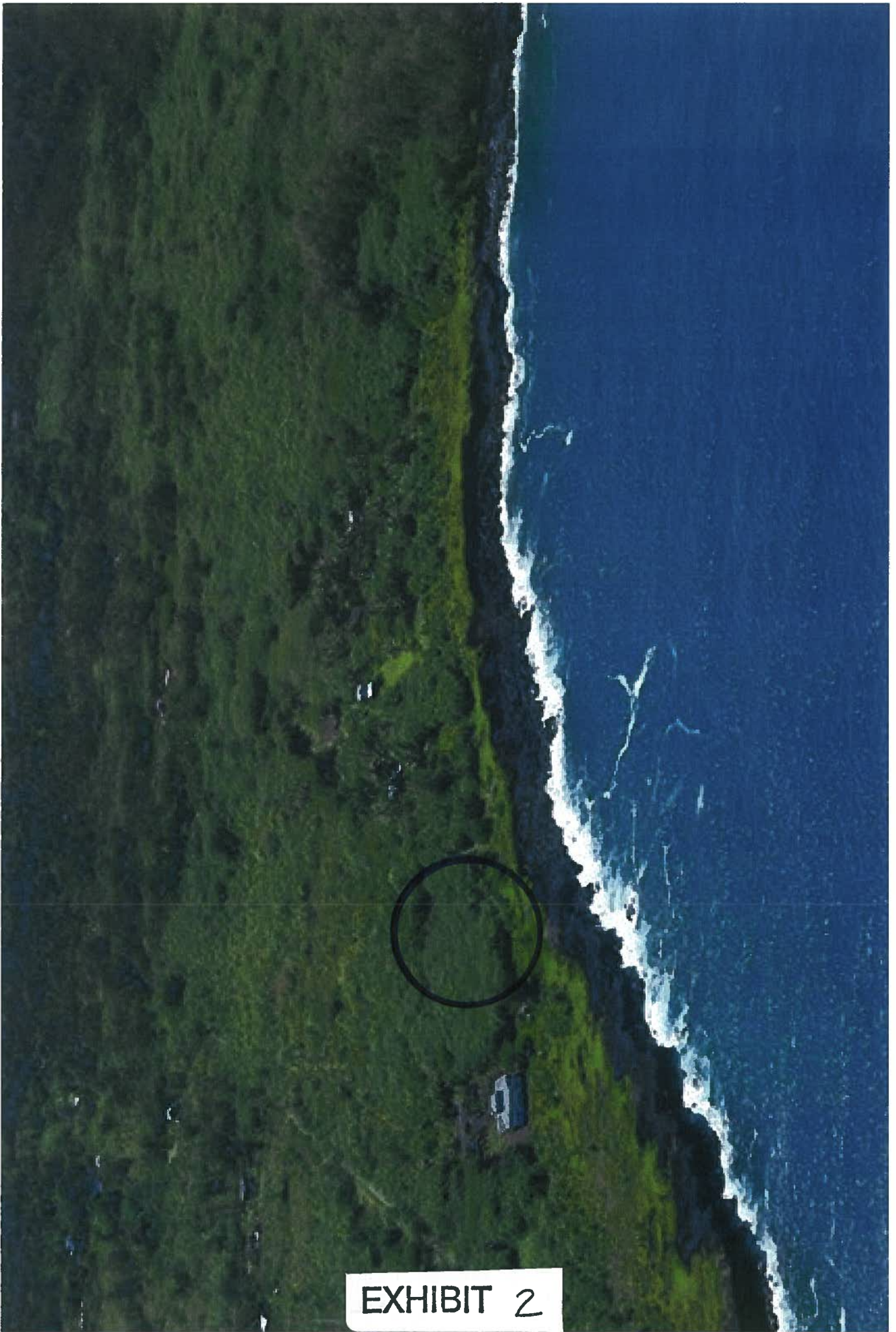


EXHIBIT 2

Nanawale
Island of Hawaii
Coastal Hazard Intensity

19°35'N
154°55'W

EXPLANATION
(For explanation of hazard types, see
Notes on Specific Hazards in the Introduction)

G - Geology:
B - Beach; S - Stream; R - Rocky; H - Headland; D - Developed
fringing reef; br - barrier reef; e - embayed coast; w - wetland

CS - Coastal Slope
Low - 1 2 3 >45%
4 - High

T - Tsunami
Low - 1 2 3 4 - High

SF - Stream Flooding
Low - 1 2 3 4 - High

W - High Waves
Low - 1 2 3 4 - High

S - Storms
Low - 1 2 3 4 - High

E - Erosion
Low - 1 2 3 4 - High

SL - Sea Level
Low - 1 2 3 4 - High

V/S - Volcanic/Sediment
Low - 1 2 3 4 - High

- No Data

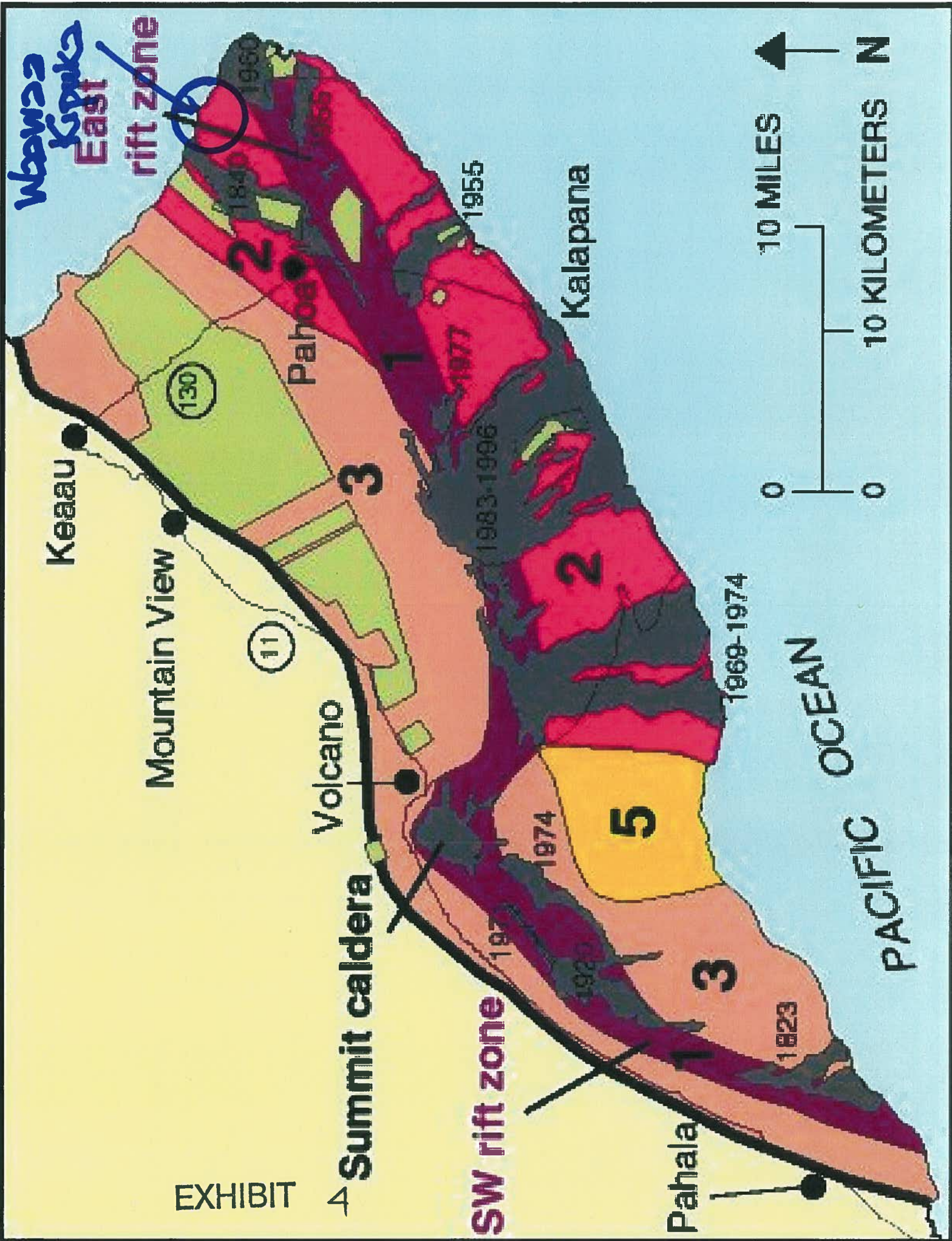
Overall Hazard Assessment (OHA)
Low 1 2 3 4 5 6 7 High

SCALE: 1:50,000
Contour interval = 40 meters

0 0.5 1.0 1.5 km
0 0.5 1.0 1.5 miles

Cartography by Manoa Mapworks, Inc.

Base Credit: IIGSS 1:50,000 Pahoa Hawaii 2016 IV W793 Edition 1.NMA
http://pubs.usgs.gov/imap/i2761/sections/6_Hawaii.pdf





United States Department of the Interior

FISH AND WILDLIFE SERVICE

PACIFIC ISLANDS ECOREGION
300 ALA MOANA BOULEVARD, ROOM 3-122
BOX 50088
HONOLULU, HAWAII 96850
PHONE: (808) 541-3441 FAX: (808) 541-3470

In reply refer to: JMC

NOV - 6 2000

Mr. Dean Y. Uchida
Land Division
Hawaii Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

Re: Coastal Littoral Forest and Protected Species at Waawaa, Puna, Hawaii.

Dear Mr. Uchida:

The U.S. Fish and Wildlife Service (Service) has reviewed your September 22, 2000, letter and attached letters of concern from Malama Puna and the Big Island Native Plant Society regarding the development of single-home lots in the State's coastal Conservation District resource subzone and potential impacts on federally endangered species within the area. The area of their concern is located along the northeast coast of the Big Island near Kapoho. The letters express concern about unpermitted development of this unique, lowland, native-dominated forest habitat.

We have reviewed information in our files, including threatened and endangered species records from the Hawaii Natural Heritage database and other sources, and surface lava flow maps prepared by the US Geological Survey. The area in question does in fact harbor the largest pockets (kipukas) of the oldest class of Kilauea volcanics (P3, ~750 to 1,500 years old) east of the Chain of Craters Road. These kipukas of older substrate, usually imbedded in a sea of younger lava, harbor successional older plant communities that often support unique and diverse assemblages of flora and fauna, sometimes representing genetically distinct populations of species. Older kipukas play other important roles within a volcanically-dominated landscape, such as serving as a source of seed and pollen that may prove to be critical in the recolonization of surrounding younger flows. The association of species described in the June 15, 2000, letter from the Big Island Native Plant Society are in fact elements of a lowland forest type that has all but vanished from the state. We believe that this area has a high potential to harbor listed endangered species of plants and animals and could serve as an important reference site for future conservation and restoration efforts.

In addition, the endangered grass species *Ischaemum byrhone* (Hilo ischaemum) is known to inhabit similar coastline habitats both toward Hilo and toward Pohoiki and is known specifically from a coastal location near Makuu, approximately six kilometers west of the project site. The Hawaii and Pacific Plant Recovery Coordinating Committee, a panel of botanical and ecological

EXHIBIT 5

experts organized at the request of the Service to provide advice on plant recovery issues, has identified approximately 20 kilometers of coastline from Kaloli Point to Kipu Point as being inadequately surveyed for rare plants.

We recommend that the DLNR take this opportunity to inform landowners of the Waawaa ahupuaa of the natural resource and potential endangered species habitat values of their parcels and inform them of the intent and restrictions of the Conservation District resource subzone. In addition, we encourage you to promote any interest landowners of that area may have in incorporating *Ischaemum byrone* and other unique endemic dry forest plant species into their landscaping. We will support such an effort with technical assistance. We also suggest that you evaluate whether it is appropriate to protect the remaining areas of unique habitat with a protective subzone designation.

Thank you for soliciting our comments on this project. We look forward to working with you in the future. If you have questions, please contact Fish and Wildlife Biologist Mick Castillo at (808) 541-3441.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul Henson", with a large, stylized initial "P" and a long, sweeping horizontal stroke at the end.

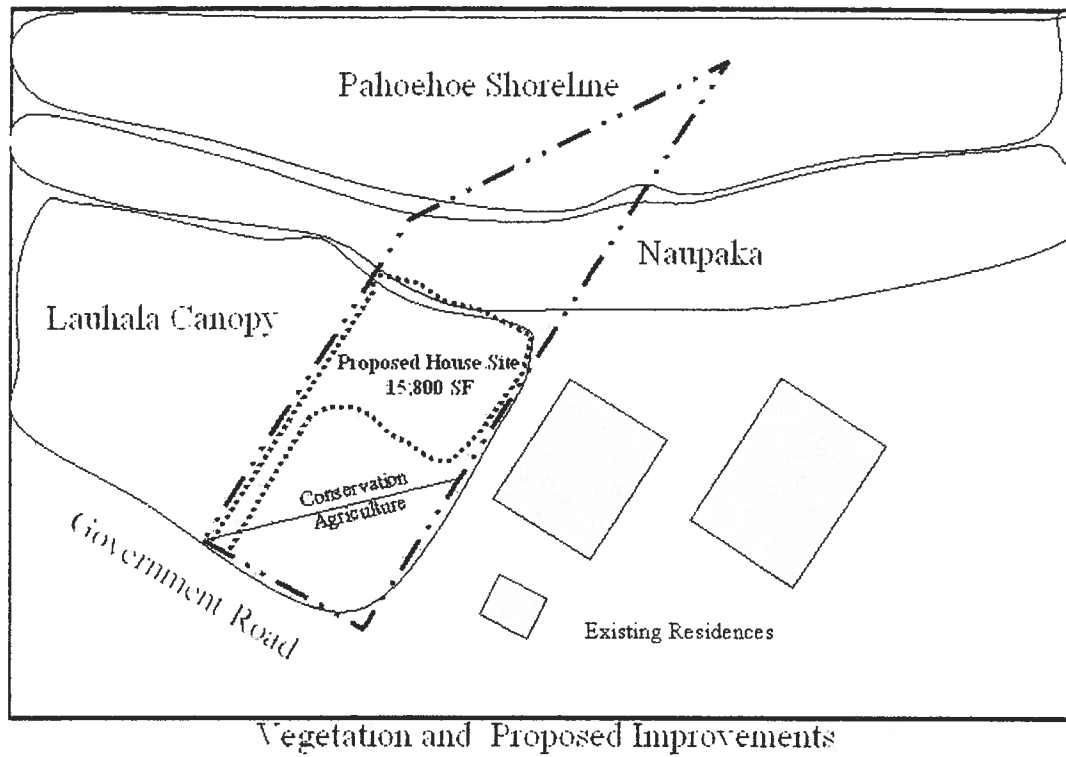
Paul Henson
Field Supervisor
Ecological Services

cc: John Nakagawa, CZMP
County Planning, Hawaii County
Lyman Perry, DOFAW Hawaii



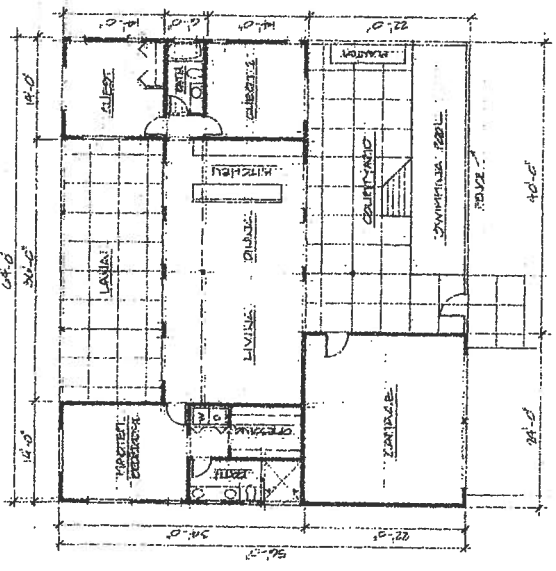
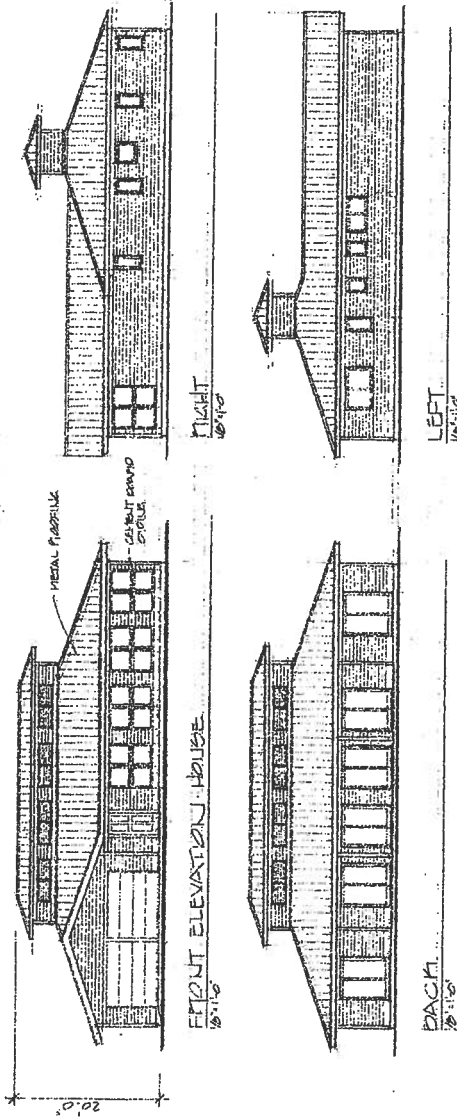
Waawaa Coastline





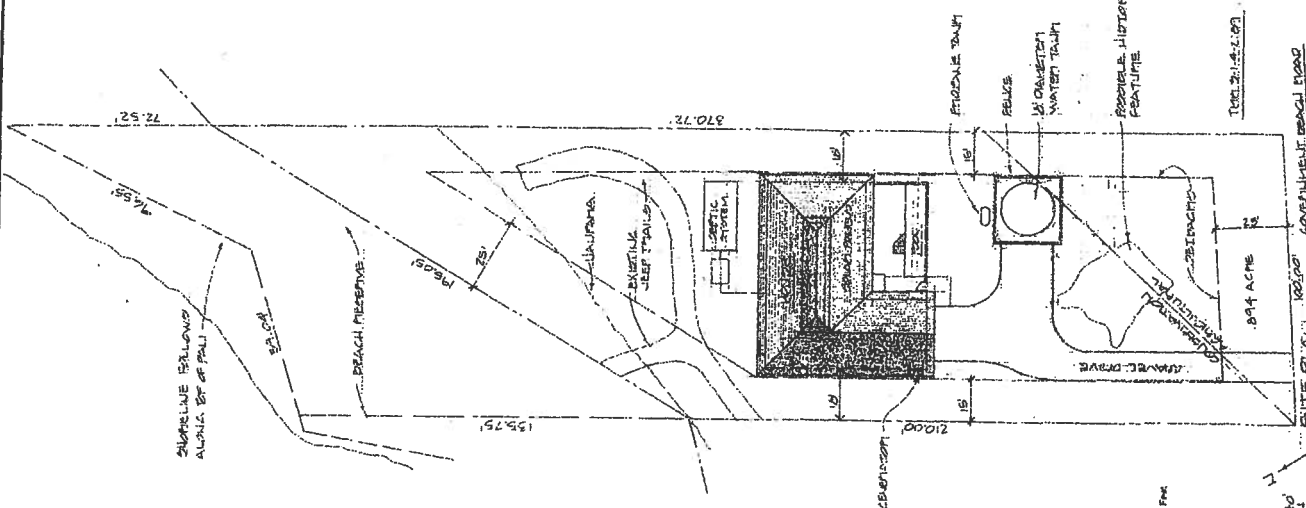
Building site as seen from the below the coastal naupaka strand. House to be located in the lower area of the lauhala stand. Note home under construction on adjoining property.

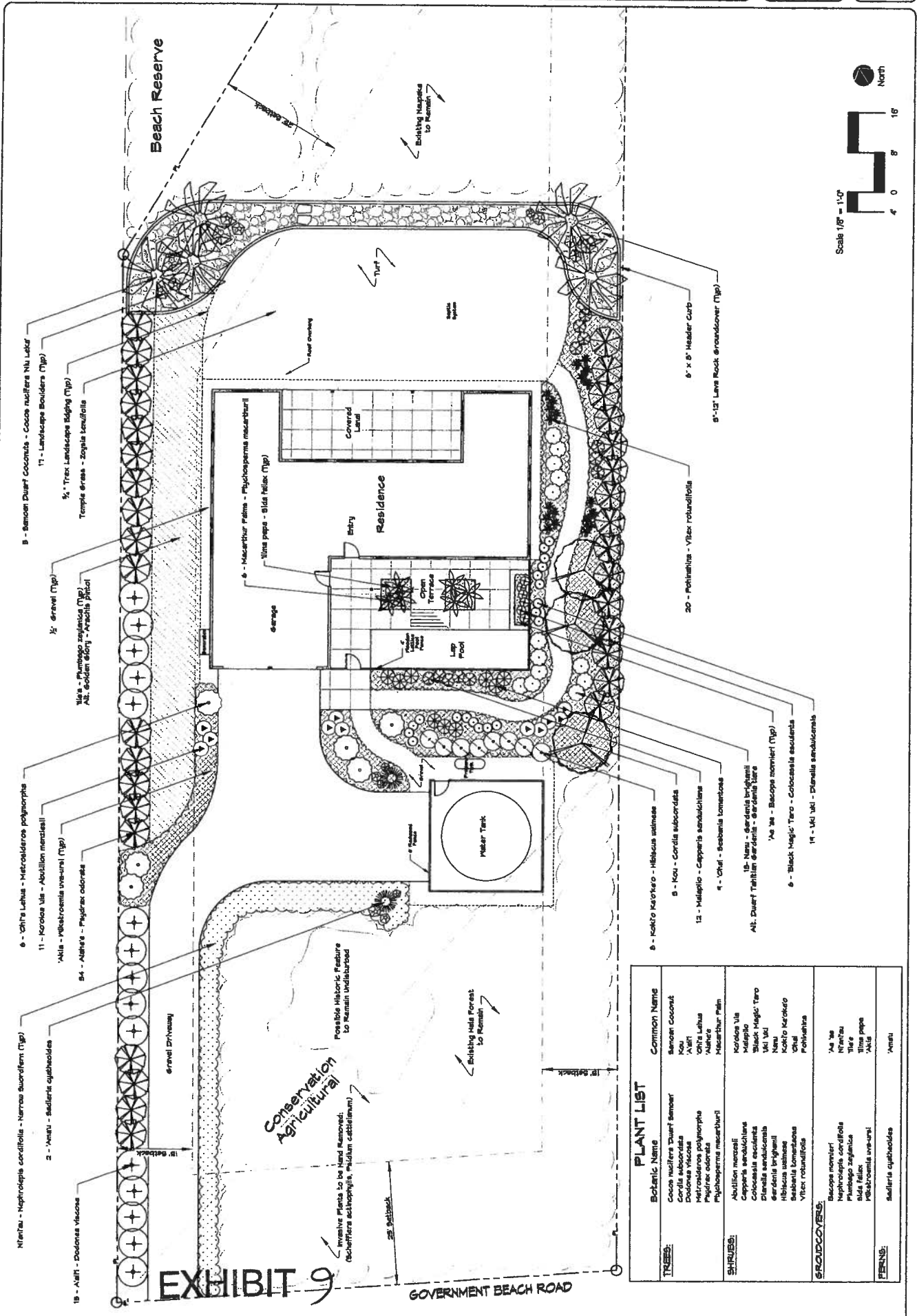
EXHIBIT 8



SQUARE FOOTAGE

Living-Dining-Kitchen	20'-0" x 38'-0" = 760 Sq. Ft.
Master Bedroom	14'-0" x 17'-0" = 238
Bath	14'-0" x 14'-0" = 196
Bedroom	14'-0" x 14'-0" = 196
Garage	14'-0" x 14'-0" = 196
Front Porch	14'-0" x 14'-0" = 196
Back Porch	14'-0" x 14'-0" = 196
Swimming Pool	14'-0" x 14'-0" = 196
Total	2,040 Square Feet





PLANT LIST	
Botanic Name	Common Name
TREES:	
<i>Cocos nucifera</i> 'Dwarf Semov'	Samson Coconut
<i>Cordia alliodora</i>	Kou
<i>Dodonaea viscosa</i>	'A'ali'i
<i>Myrsine torquata</i>	Ohia Lehua
<i>Myrsine torquata</i> polymorpha	Myrsine
<i>Psychosperma ascutellari</i>	Heart-leaf palm
SHRUBS:	
<i>Abutilon muscicola</i>	Kaulos 'Ua
<i>Capparis sandwicensis</i>	Makalo
<i>Conocarpus occidentalis</i>	'Black Magic' Pano
<i>Conocarpus strictus</i>	Vel 'Uli
<i>Gracilaria brighamii</i>	Kaulos
<i>Hibiscus antiochi</i>	Kaulos Kaulos
<i>Scaevola lomaxiana</i>	Ohia
<i>Viburnum rotundifolia</i>	Pohinahia
GRASS/COVERS:	
<i>Bacopa monnieri</i>	'Aa 'Aa
<i>Polypodium cordifolia</i>	'Nani'au
<i>Plumbago zeylanica</i>	'Tia'e
<i>Sida fallax</i>	'Tine papa
<i>Pilea-Neuwiedia vire-ens</i>	'A'ali'i
FERNS:	
<i>Saururus cymboides</i>	'A'ali'i